



ENSAFE INC.

**ENVIRONMENTAL AND MANAGEMENT CONSULTANTS** 

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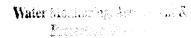
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October 1, 1999



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Mr. Paul Bristol
South Carolina Department of Health and Environmental Control
Groundwater Quality Section
Bureau of Water
2600 Bull Street
Columbia, SC 29201



RE: Fuel Distribution System, Areas 2, 3, 4, 5, and 6, Charleston Naval Complex, South Carolina (SCDHEC No. 01181)

Dear Mr. Bristol:

EnSafe is please to submit, on behalf of the U.S. Navy, Southern Division Naval Facilities Engineering Command, two copies of the letter report for SCDHEC petroleum site number 01181. This submittal incorporates the results of follow-on investigative activities performed in accordance with recommendations in the CAR and to address any SCDHEC comments concerning these areas.

Should you have any questions or concerns regarding this submittal, please contact me.

Sincerely,

ENSAFE INC.

Craig R. Smith

Attachment

cc: T. Haverkost, EnSafe - Charleston

0144 File

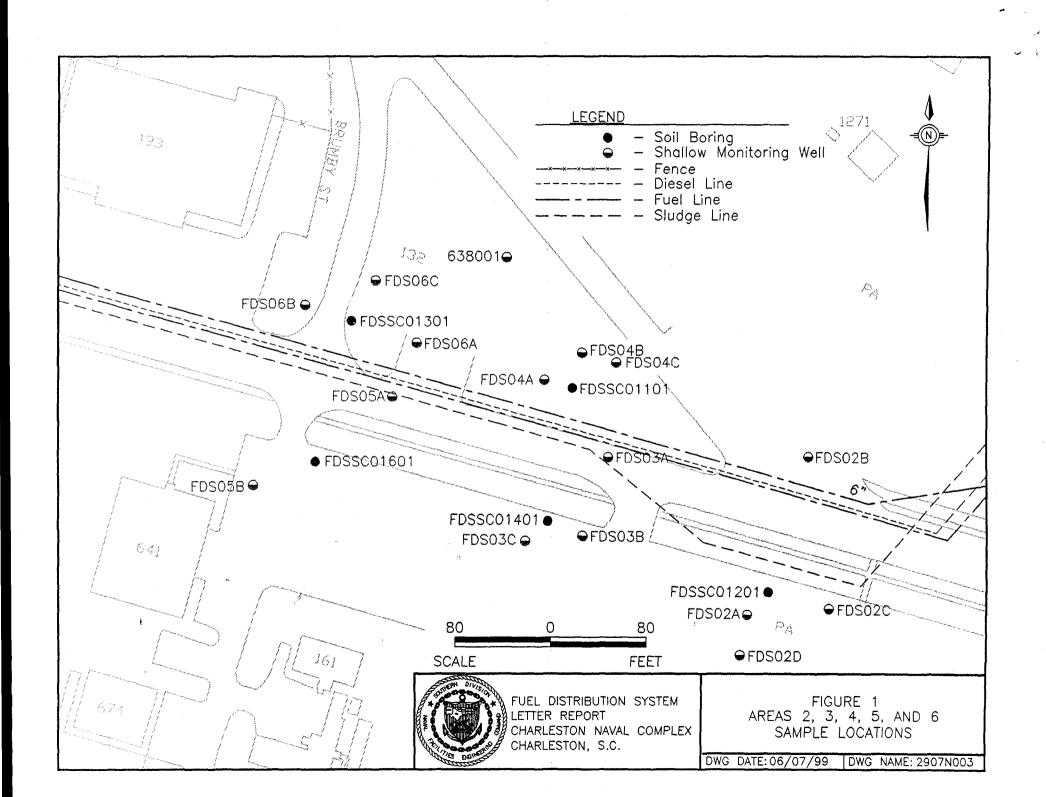
Areas 2, 3, 4, 5, and 6 (SCDHEC No. 01181)

#### Background

The combined Areas 2, 3, 4, 5, and 6 of the Fuel Distribution System (FDS) are associated with Phase I soil samples FDSSC01101 through FDSSC01401, and FDSSC01601. As reported in the FDS Contamination Assessment Report (CAR), these samples exhibited total petroleum hydrocarbons-gasoline range organics ranging from 61.8 micrograms per kilogram ( $\mu$ g/kg) at FDSSC01101 to 124,000  $\mu$ g/kg at FDSSC01301. These Phase I soil results prompted subsequent Phase II soil and groundwater sampling at the combined areas. Phase II soil sampling revealed chemicals of concern (COCs) for the soil. Benzene was detected at 100  $\mu$ g/kg at sample FDSSC01201 which exceeded the risk-based screening level (RBSL) of 5  $\mu$ g/kg. naphthalenes of 159,000 µg/kg and 5,490 µg/kg at FDSSC01201 and FDSSC01301, respectively, exceeded the RBSL of 210  $\mu$ g/kg. To determine if groundwater has been adversely impacted by these petroleum COCs, 14 shallow groundwater monitoring wells were installed and sampled in the combined areas during Phase II. Data from nearby well 638001 were also incorporated into the investigation. The Phase II groundwater investigation revealed the RBSL for total polycyclic aromatic hydrocarbons (PAHs) was exceeded at well FDS06B during both the first and second sampling events, while the RBSL for 2-methylnaphthalene was exceeded at this well during the first event (CAR, EnSafe 1998). Figure 1 depicts the Areas 2, 3, 4, 5, and 6 sample locations.

#### **Follow-on Activities**

The FDS CAR recommended and South Carolina Department of Health and Environmental Control (SCDHEC) concurred that removal/remediation of the soil at FDSSC012 was necessary to mitigate the threat of benzene and naphthalene leaching to groundwater at this location. To fill a potential data gap at Areas 2, 3, 4, 5, and 6, the FDS CAR also recommended installation of a monitoring well downgradient of FDSSC012 to determine if these COCs were leaching to



groundwater. Monitoring well FDS02D was installed downgradient from FDSSC012 in February, 1999, and all area wells were resampled for RBSL parameters in March 1999. Figure 1 depicts the combined Areas 2, 3, 4, 5, and 6 sample locations, including the location of the new well. Attachment A contains the monitoring well construction diagram and well development record for the new well, FDS02D. The FDS CAR contains the boring logs and development records for the previously installed wells in the combined area.

#### Results

Figure 2 presents the shallow groundwater piezometric surface at Areas 2, 3, 4, 5, and 6 as measured in March 1999 at low-tide. Groundwater flow is generally to the southwest near FDS05B and the south southwest near FDS02D, which is similar to the low-tide flow direction shown in the CAR (EnSafe 1998). This flow regime places the new well directly downgradient from the area of contaminated soil.

Analytes detected in shallow groundwater at Areas 2, 3, 4, 5, and 6 during the post-CAR sampling are summarized in Table 1. These most recent results revealed no detections of volatile organic compounds (VOCs). The only semivolatile organic compounds (SVOCs) detected were benzo(k)fluoranthene at 0.9 micrograms per liter ( $\mu$ g/L) and benzo(b)fluoranthene at 0.9  $\mu$ g/L, detected in well FDS06C. Both concentrations were below their individual RBSLs of 10  $\mu$ g/L. These concentrations contributed to a total PAH concentration of 1.80  $\mu$ g/L, at FDS06C. Four inorganics were also present at concentrations below their respective RBSLs. Attachment B contains the analytical data from the post-CAR sampling. The FDS CAR contains the analytical data from all previous sampling at the combined areas.

#### **Conclusions and Recommendations**

As reported in the CAR, the benzene concentration detected in Phase I soil sample FDSSC01201 was  $100 \mu g/kg$ , which exceeds the RBSL of  $5 \mu g/kg$ . The concentration of total naphthalenes at

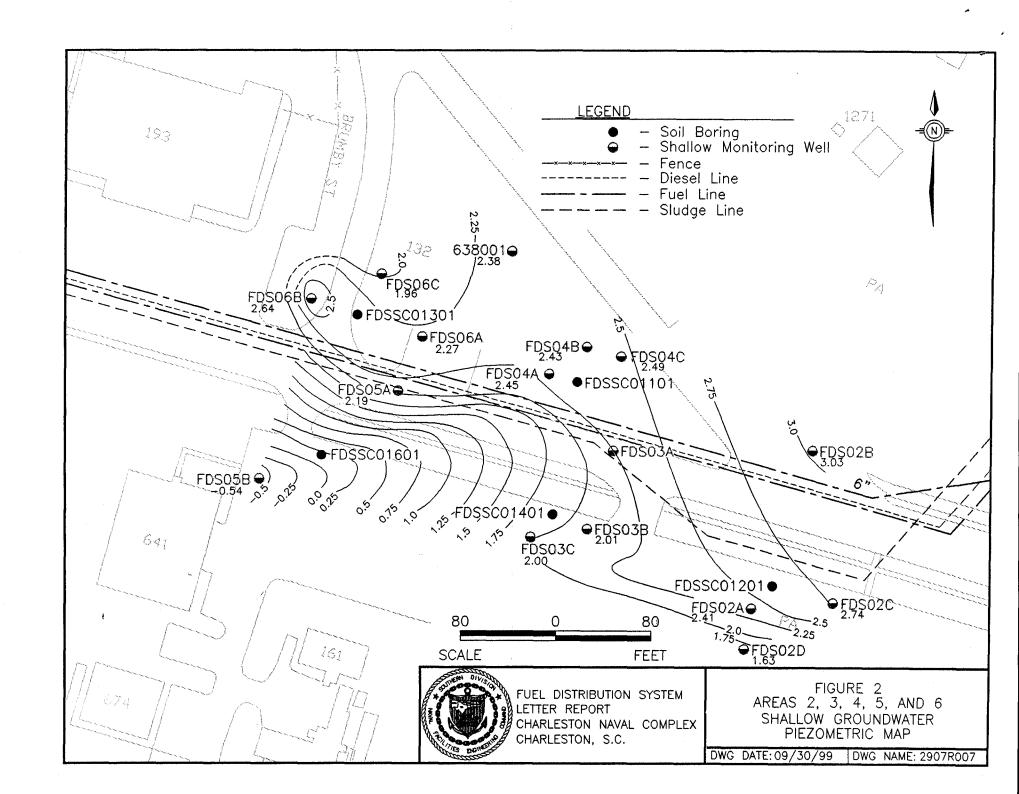


Table 1 Analytes Detected in Shallow Groundwater Post-CAR Sampling, Areas 2, 3, 4, 5, and 6 **Fuel Distribution System** 

Parameters	Location	Sample Results	RBSL (μg/L)	Exceeds RBSL
Organics (μg/L)				
Total PAHs	FDS06C	1.8	25	No
Benzo(b)fluoranthene	FDS06C	0.9	10	No
Benzo(k)fluoranthene	FDS06C	0.9	10	No
Inorganics (μg/L)				
Arsenic (As)	FDS02A	3.1	50	No
	FDS02C	6.2		No
	FDS02D	11.2		No
	FDS03B	3.5		No
	FDS03C	3.4		No
	FDS05A	3.4		No
	FDS06A	6.6		No
	FDS06C	24.3		No
Barium (Ba)	FDS02A	140	2,000	No
` '	FDS02B	46.2		No
	FDS02C	25.2		No
	FDS02D	84.9		No
	FDS03A	28.5		No
	FDS03B	27.4	9	No
	FDS03C	22.3		No
	FDS04A	12.1		No
	FDS04B	25.7		No
	FDS04C	14.9		No
	FDS05A	43.5		No
	FDS05B	39.7		No
	FDS06A	15.4		No
	FDS06B	28.9		No
	FDS06C	31		No
Chromium (Cr)	FDS02A	1.4	100	No
	FDS02B	0.81		No
	FDS02C	0.99		No No
	FDS04A	0.81		No
	FDS04B	0.84		No
	FDS04C	0.83		No
	FDS05A	1.5		No
	FDS05B	0.87		No
	FDS06A	11.1	é.	No
	FDS06B	1.5		No
	FDS06C	5.6		No
Lead (Pb)	FDS06A	1.8	15	No
	FDS06C	2		No

 $\mu g/L = Micrograms$  per liter RBSLs from the South Carolina Risk-Based Corrective Action for Petroleum Releases (SCDHEC, January 5, 1998).

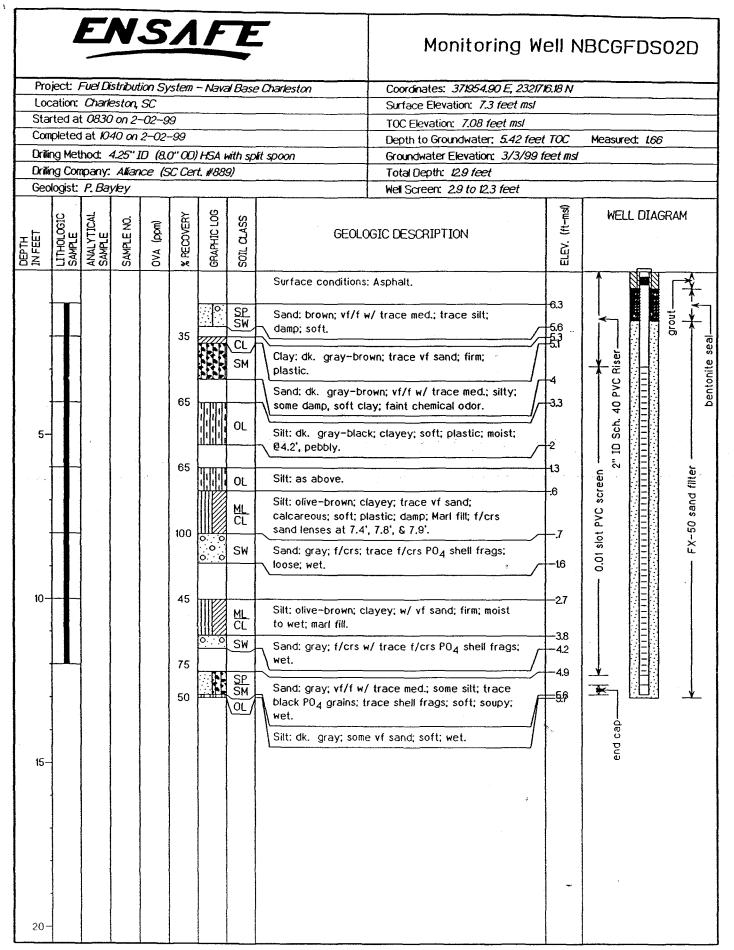
FDSSC01201 (159,000  $\mu$ g/kg) and FDSSC01301 (5,490  $\mu$ g/kg) also exceeded the RBSL (210  $\mu$ g/kg). Because these samples were collected below the water table at depths between 4.3 and 6.8 feet, they are effectively samples of the aquifer matrix and therefore Site Specific Target Levels would not be applicable. The concentrations at FDSSC01201 also exceed their respective soil-to-groundwater soil screening levels (SSL [DAF=20]) of 30  $\mu$ g/kg (benzene) and 84,000  $\mu$ g/kg (naphthalene), (from the Soil Screening Guidance: Technical Background Document [USEPA 1996]), suggesting a potential for migration of these constituents from soil to groundwater. However, groundwater analytical data from downgradient wells FDS02C and FDS02D confirms leaching is not occurring at FDSSC01201. In addition, groundwater analytical data from monitoring wells FDS06C and FDS05A confirms no leaching of naphthalene from FDSSC01301. Because the soil at locations FDSSC012 and FDSSC013 do not appear to be causing a groundwater problem, intrinsic remediation is recommended for the impacted soil at the combined Areas 2, 3, 4, 5, and 6. To support this recommendation, monitoring of groundwater Monitoring wells FDS02A and FDS02D, located directly downgradient of FDSSC012 and FDS05A and FDS06C located near FDSSC013 should be monitored quarterly for a period of one year. These samples should be analyzed for RBSL VOCs and SVOCs to ensure that constituents detected in soil are not migrating to groundwater.

The groundwater results presented in the CAR show a significant decrease in total PAH concentrations at well FDS06B from 104  $\mu$ g/L to 27  $\mu$ g/L. The post-CAR groundwater results show these concentrations have decreased to below the reporting limits. This trend illustrates that intrinsic remediation of groundwater constituents is occurring. The groundwater monitoring program recommended to document intrinsic remediation of soil constituents should be sufficient to also demonstrate that concentrations in groundwater are decreasing by natural attenuation. In addition, groundwater is not currently used at Charleston Naval Complex (CNC) as a source of potable or process water; a basewide potable water system provides drinking and process water to buildings at CNC. This system is to remain in operation under the current base reuse plan. In

Areas 2, 3, 4, 5, and 6, Fuel Distribution System Charleston Naval Complex October 1999

addition, the shallow aquifer for this investigation contains significant concentrations of naturally occurring chlorides and elevated total dissolved solids, which makes this water-bearing unit a questionable potable water source.

Attachment A
Monitoring Well Construction Diagram/Well
Development Record



#### **ENSAFE**

# CHARLESTON NAVAL COMPLEX WELL DEVELOPMENT STATUS REPORT ZONE G FDS

WELL DEVELOPMENT SUMMARY

Well:NBCG\FDS02D

Summary Log of well development progress.

Readings are final readings for each visit.

Volume data are cumulative from start of development.

DATE	VOLUME Gallons	рН	Turb NTU	Cond mS/cm	Temp Celsius	Sal %
2-24-99	15	6.81	999	16.9	19.1	<del>.</del>
2-24-99	25	6.93	-10	19.1	21.3	-
2-24-99	35	6.95	-10	19.8	20.8	. –
2-24-99	40	6.94	-10	20.2	21.8	<del>-</del>
2-24-99	45	6.93	-10	19.8	21.5	-
2-24-99	50	6.93	-10	20.0	21.4	-
2-24-99	55	6.93	-10	20.0	21.3	

Well Development Completed on: 2-24-99

COMMENTS:

Attachment B Analytical Data

### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

Page: 16, Time: 09:30

SW846-VOA		SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE ANALYZED> MATRIX> UNITS>	FDSGW02A03 37602.06 FDSGW02A03 03/03/99 03/08/99 Water	FDS-G-W028-03 FDSGW02B03 37631.01 FDSGW02B03 03/04/99 03/08/99 Water UG/L	FDS-G-W02C-03 FDSGW02C03 37602.07 FDSGW02C03 03/03/99 03/08/99 Water UG/L	FDS-G-W02D-01 FDSGW02D01 37602.04 FDSGW02D01 03/03/99 03/08/99 Water UG/L	FDS-G-W03A-03 FDSGW03A03 37631.02 FDSGW03A03 03/04/99 03/08/99 Water UG/L	FDS-G-W03B-03 FDSGW03B03 37602.03 FDSGW03B03 03/03/99 03/05/99 Water UG/L
	Parameter		37602 VAL	37631 VAL	37602 VAL	37602 VAL	37631 VAL	37602 VAL
108-88-3	Ethylbenzene		5. U 5. U 5. U 5. U	5. U 5. U 5. U 5. U	5. U 5. U 5. U 5. U	5. U 5. U 5. U 5. U	5. U 5. U 5. U 5. U	5. U 5. U 5. U 5. U
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#### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

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SW846-VOA		SAMPLE ID ORIGINAL ID LAB SAMPLE ID ID FROM REPORT SAMPLE DATE DATE ANALYZED MATRIX UNITS	- FDSGW03C03 - 37602.02 - FDSGW03C03 - 03/03/99 - 03/05/99 - Water	FDS-G-W04A-03 FDSGW04A03 37602.08 FDSGW04A03 03/03/99 03/08/99 Water UG/L	FDS-G-W04B-03 FDSGW04B03 37602.09 FDSGW04B03 03/03/99 03/08/99 Water UG/L	FDS-G-W04C-03 FDSGW04C03 37602.10 FDSGW04C03 03/03/99 03/08/99 Water UG/L	FDS-G-W05A-03 FDSGW05A03 37631.03 FDSGW05A03 03/04/99 03/08/99 Water UG/L	FDS-G-W058-03 FDSGW05803 37602.05 FDSGW05803 03/03/99 03/05/99 Water UG/L
71-43-2 100-41-4 108-88-3	Parameter  Benzene Ethylbenzene Toluene Xylene (Total)		37602 VAL 5. U 5. U 5. U 5. U 5. U	5. U 5. U 5. U 5. U 5. U 5. U	37602 VAL 5. U 5. U 5. U 5. U 5. U	5. U 5. U 5. U 5. U 5. U	37631 VAL 5. U 5. U 5. U 5. U 5. U	37602 VAL 5. U 5. U 5. U 5. U
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### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

Page: 18 Time: 09:30

SW846-VOA		SAMPLE ID ORIGINAL ID LAB SAMPLE ID ID FROM REPORT SAMPLE DATE DATE ANALYZED MATRIX UNITS	> FDS > 376 > FDS > 03/ > Wat			FDS-G-W06B FDSGW06B03 37631.05 FDSGW06B03 03/04/99 03/08/99 Water UG/L		FDS-G-W06C-03 FDSGW06C03 37631.06 FDSGW06C03 03/04/99 03/08/99 Water UG/L						
	Parameter		376		VAL	37631	VAL	37631	VAL				al a	
71-43-2 100-41-4	Ethylbenzene			5. 5. 5.	บ บ	5. 5. 5.	U U	5. <b>5.</b> 5.	U U U					
108-88-3 1330-20-7	Xylene (Total)			5. 5.	U U	5. 5.	U	5. 5.	U					
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#### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

Page: 1-Time: 09:30

SM-SVOA	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> DATE ANALYZED> MATRIX> UNITS>	FDS-G-W02A-03 FDSGW02A03 37602.06 FDSGW02A03 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W02B-03 FDSGW02B03 37631.01 FDSGW02B03 03/04/99 03/06/99 03/10/99 Water UG/L	FDS-G-W02C-03 FDSGW02C03 37602.07 FDSGW02C03 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W02D-01 FDSGW02D01 37602.04 FDSGW02D01 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W03A-03 FDSGW03A03 37631.02 FDSGW03A03 03/04/99 03/06/99 03/10/99 Water UG/L	FDS-G-W03B-03 FDSGW03B03 37602.03 FDSGW03B03 03/03/99 03/05/99 03/11/99 Water UG/L
CAS #	Parameter	37602 VAL	37631 VAL	37602 VAL	37602 VAL	37631 VAL	37602 VAL
108-95-2		10 <b>.</b> U	10. U ·	10. ບ	10. U	10. U	10. ປ
	bis(2-Chloroethyl)ether	10. U	10, U	10, U	10. U	10. U	10. U
	2-Chlorophenol	10. U	10. U	10. U	10. U	10. U	10. U
	1,3-Dichlorobenzene	10. U	10. U	10, U	10. U	10. U	10. U
<ul> <li>A.S. Peri Anno appropriate for a property of the property of the</li></ul>	1,4-Dichlorobenzene	10. U	10. U	10. U	10. U	10. U	10. ป
	Benzyl alcohol	10. U	10. U	10. U	10. U	10. U	10. U
**************************************	1,2-Dichlorobenzene	10. U	10. U	10. U	10. U	10. U	10. U
	2-Methylphenol (o-Cresol)	10. U	10. U	10. U	10. U	10. U	10. U
	2,2'-oxybis(1-Chloropropane)	10. U	10. ປ	10. U	10. U	10. U	10. U
	4-Methylphenol (p-Cresol)	10. U	10. U	10. U	10. U	10. U	10. U
CONTRACTOR SALES AND ADDRESS AND SALES	N-Nitroso-di-n-propylamine	10. U	10. U	10. U 10. U	10. U	10. U	10. U
	Hexachloroethane	10. U	10. U	**************************************	10. U	10, U	10. U
	Nitrobenzene	10. U	10. ປ 10. ປ	10. U 10. U	10. ປ 10. ປ	10. U 10. U	10. U
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	2-Nitrophenol	10. U 10. U	10. U	10. U 10. U	10. U	10. U 10. ย	10. U
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The second secon	Benzoic acid	10. U	10. U	10. U	10. U	10. U	25. U
0.0 1.00	bis(2-Chloroethoxy)methane		10. U	10. U	10. U		10. U
M 4 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2,4-Dichlorophenol	10. U 10. U	L	10. U	10. U	10. U 10. U	10. U
	1,2,4-Trichlorobenzene	200000000000000000000000000000000000000	10. U 10. U				10. U
20.000000000000000000000000000000000000	Naphthalene	10. U 10. U	tara da antida de la calegra d	and the contract of the contra	10. U	10. U 10. U	10. U
	4-Chloroaniline	AND	10. U	garana and an annual tratter and a survivariant second designation of the second secon	10. U	Anna con a contrata de la compansa del compansa de la compansa de la compansa del compansa de la compansa del la compansa de l	10. U
<ul> <li>Long transport to the property of the property of</li></ul>	Hexachlorobutadiene	10. U	10. U	10. U	10. U	10. U	10. U
	4-Chloro-3-methylphenol	10. U	10. U	10. U	10. U	10. U	10. U
	2-Methylnaphthalene	10. U	10. U	( 10. U	10. ∪	10. U	10. U
	Hexachlorocyclopentadiene	10. U	10. U	10. U	10. U	10. U	10. U
	2,4,6 <sup>L</sup> Trichlorophenol	10. U	10. U	10. U	10. U	10. U	10. U
	2,4,5-Trichlorophenol	25. U	25. U	25. U	25. U	25. U	25. U
	2-Chloronaphthalene	10. U	10. U	10. U	10. U	10. U	10. U
	2-Nitroaniline	25. U	25. U	25. U	25. U	25. U	25. U
	Dimethyl phthalate	10. U	10. U	່ 10. ປ	10. U	10. U	10. U
	Acenaphthylene	10. U	10. U	10. U	10. U	10. U	10. U
l to the second of the	3-Nitroaniline	25. U	25. U	25. ປ	25. U	25. U	25. U
	Acenaphthene	10. U	10. U	10. U	10. U	2. J	10. U
	2,4-Dinitrophenol	25. U	25. U	25. U	25. U	25. U	25. U
100-02-7	4-Nitrophenol	25. U	25. U	25. U	25. U	25. ປ	25. U
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### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

Page: 2 Time: 09:30

SW-SVOÅ	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> DATE ANALYZED> MATRIX> UNITS>	FDS-G-W02A-03 FDSGW02A03 37602.06 FDSGW02A03 03/03/99 03/05/99 03/11/99 Water UG/L		FDS-G-W02B-03 FDSGW02B03 37631.01 FDSGW02B03 03/04/99 03/10/99 Water UG/L	3	FDS-G-W020 FDSGW02C03 37602.07 FDSGW02C03 03/03/99 03/05/99 03/11/99 Water UG/L	3	FDS-G-W02D FDSGW02D0 37602.04 FDSGW02D0 03/03/99 03/05/99 03/11/99 Water UG/L	1	FDS-G-W0 FDSGW03A 37631.02 FDSGW03A 03/04/99 03/06/99 03/10/99 Water UG/L	03 03	FDS-G-W0 FDSGW03B 37602.03 FDSGW03B 03/03/99 03/05/99 03/11/99 Water UG/L	03 03
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	2,4-Dinitrotoluene	E	J	10.	U	10.	U	10.	U	10		10	
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120-12-7	Anthracene	10. l	j	10.	U	10.	U	10.	U	10.		10.	t and the earthmat a proposition
84-74-2	Di-n-butylphthalate		اا	10.	U	10.	บ	10.	U	10.	. υ	10.	U
206-44-0	Fluoranthene	10. l	3	10.	U	10.	ti	10.	Ü	10.	. U	10.	. u
129-00-0			J	10.	U	10.	U	10.	U	10.		10.	
	Butylbenzylphthalate		J	10.	U	10.	U	10.	U	10.	. U	10.	U
91-94-1	3,3'-Dichlorobenzidine		J	10.	U	10.	U	10.	U	10		10.	. U
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	bis(2-Ethylhexyl)phthalate (BEHP)		J	10.	U	1.	J	1.	J	10.		10.	
218-01-9		paranga ang pangagang ang ang ang	)	10.	U	10.	U	10.	U	10.		10.	
	Di-n-octyl phthalate		J	10.	U	10.	U	10.	U	10.		10.	
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	Benzo(k)fluoranthene		J	10. 10.	U	10.	Ü	10.	U	10.		10.	
	Benzo(a)pyrene		J J	10.	U U	10. 10.	U	10.	U	10.		10.	
	Indero(1,2,3-cd)pyrene Dibenz(a,h)anthracene	A CONTRACTOR OF THE PROPERTY O	ر ن	10.	U	10.	U	10.	Ü	10. 10.		10. 10.	0.0555.00056666666665555555556
The state of the s	Benzo(g,h,i)perylene		J	10.	U	10.	U	10.	U	10.		10. 10.	The second secon
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					-		-				j	10.	J

#### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

Page: 3. Time: 09:30

SW-SVOA	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> DATE ANALYZED> MATRIX> UNITS>	FDS-G-W03C FDSGW03C03 37602.02 FDSGW03C03 03/03/99 03/05/99 03/11/99 Water UG/L		FDSGW 37602	104A03 5/99 5/99 1/99		FDS-G-W048-0 FDSGW04803 37602.09 FDSGW04803 03/03/99 03/05/99 03/11/99 Water UG/L	<b>3</b>	FDS-G-W04C-03 FDSGW04C03 37602.10 FDSGW04C03 03/03/99 03/05/99 03/11/99 Water UG/L	\$	FDS-G FDSGW( 37631, FDSGW( 03/04, 03/10, Water UG/L	.03 05A03 799 799	3	FDS-G-W05B FDSGW05B03 37602.05 FDSGW05B03 03/03/99 03/05/99 03/11/99 Water UG/L	
CAS # Parameter		37602	VAL	37602	1	VAL	37602	VAL	37602	VAL	37631		VAL	37602	VAL
108-95-2 Phenol		10.	U		10.	U	10.	U	10.	U		10.	U	10.	U
111-44-4 bis(2-Chloroet	hyl)ether	10.	U		10.	ับ	10.	U	10.	U		10.	U .	10.	Ü
95-57-8 2-Chlorophenol		10.	บ	1	10.	U	10.	U	10.	U	1	10.	U	10.	U
541-73-1 1,3-Dichlorobe	nzene	10.	U		10.	U	10.	U	10.	U	1	10.	U	10.	U
106-46-7 1,4-Dichlorobe	· · · · · · · · · · · · · · · · · · ·	10.	U		10.	U	10.	U	10.	U		10.	U	10,	U
100-51-6 Benzyl alcohol		10.	U		10.	บ	10.	U	10.	U		10.	U	10.	U
95-50-1 1,2-Dichlorobe	nzene	10.	U	1	10.	บ	10.	U	10.	U		10.	U	10.	U
95-48-7 2-Methylphenol		10.	U		10.	U	10.	U	10.	U		10.	U	10.	U
108-60-1 2,2'-oxybis(1-	Chloropropane)	10.	U		10.	U	10.	U	10.	U	1	10.	U	10.	U
106-44-5 4-Methylphenol	(p-Cresol)	10.	U	1	10.	u	10.	U	10.	U		10.	U	10.	U
621-64-7 N-Nitroso-di-n	-propylamine	10.	U		10.	U	10.	U	10.	U		10.	U	10.	U
67-72-1 Hexachloroetha	ne	10.	U		10.	U.	10.	U	10.	U		10.	U	10.	U
98-95-3 Nitrobenzene		10.	U		10.	U	10.	U	10.	U	[	10.	U	10.	U
78-59-1 Isophorone		10.	U		10.	U	10.	U	10.	U		10.	u	10.	U
88-75-5 2-Nitrophenol	Soossa (* 1. c. comptee de comptee de comp	10.	U	000000000000000000000000000000000000000	10.	U	10.	U	10.	U		10.	U	10.	U
105-67-9 2,4-Dimethylph	enol	10.	U	<b>!</b>	10.	u	10.	U	10.	U	1	10.	U	10.	U
65-85-0 Benzoic acid		0.5	and the contract of the contra	0000000000000	0.6	J	25.	U	25.	U	400000000000000000000000000000000000000	8.0	J	25.	U
111-91-1  bis(2-Chloroet		10.	U		10.	U	10.	U	10.	U		10.	U	10.	U
120-83-2 2,4-Dichloroph		10.	U	10000000000	10.	U	10.	U	10.	U		10.	U	10.	U
120-82-1 1,2,4-Trichlor	obenzene	10.	U	<b> </b>	10.	U	10.	U	10.	U		10.	ับ	10.	U
91-20-3 Naphthalene	000000000000000000000000000000000000000	10.	U		10.	U	10.	U	10.	U	1	10.	U	10.	U
106-47-8 4-Chloroanilin	e	10.	U		10.	U	10.	U	10.	U	1	10.	ับ	10.	U
87-68-3 Hexachlorobuta	diene	10.	U	450000000000	10.	U	10.	U 	10.	U		10.	U	10.	U
59-50-7 4-Chloro-3-met	hytphenot	10.	U	1	10.	U	10.	U	10.	U		10.	U	10.	U
91-57-6 2-Methylnaphth	titat kan mengenaran salah saman manan mengenaran datau tahun terbatan ban salah salah salah menger	10.	U		10.	U .	10.	U	10.	Ü	<u></u>	10.	U	10.	U
77-47-4 Hexachlorocycl		10.	U	1	10.	U	10.	U	10.	U		10.	U	10.	U
88-06-2 2,4,6-Trichlor	ophenol	10.	U	ļ	10.	U	10.	U	10.	U		10.	U	10.	U
95-95-4 2,4,5-Trichlor		25.	Ü	1	25.	ับ	25.	U	25.	U	ļ.	25.	U	25.	U
91-58-7 2-Chloronaphth	alene	10.	U		10.	U	10.	U	10.	U	stanuela sel la ent	10.	U	10.	U
88-74-4 2-Nitroaniline		25.	U		25.	U	25.	U	25.	U		25.	U	25.	U
131-11-3 Dimethyl phtha	late	10.	<b>U</b>		10.	U	10.	U	10.	U	St. Wilderstein	10.	U	10.	U
208-96-8 Acenaphthylene		10.	U		10.	U	10.	IJ	10.	Ü		10.	U	10.	Ų
99-09-2 3-Nitroaniline	Night International Control	25.	U	santa a sa	25.	U	25.	U	25.	U	Para pera tradició	25.	IJ	25.	U
83-32-9 Acenaphthene		10.	U		10.	U	10.	U	10.	U		2.	J	10.	U
51-28-5 2,4-Dinitrophe	nol	25.	U		25.	U .	25.	U	25.	U	kija karija kija karana ki	25.	U	25.	U
100-02-7 4-Nitrophenol		25.	U	1	25.	. 0	25.	U	25.	U		25.	U	25.	U

### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

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SW-SVOA	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> MATRIX> UNITS>	FDS-G-W03C-03 FDSGW03C03 37602.02 FDSGW03C03 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W04A-03 FDSGW04A03 37602.08 FDSGW04A03 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W04B-03 FDSGW04B03 37602.09 FDSGW04B03 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W04C-03 FDSGW04C03 37602:10 FDSGW04C03 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W05A-03 FDSGW05A03 37631.03 FDSGW05A03 03/04/99 03/06/99 03/10/99 Water UG/L	FDS-G-W05B-03 FDSGW05B03 37602.05 FDSGW05B03 03/03/99 03/05/99 03/11/99 Water UG/L
CAS #	Parameter	37602 VAL	37602 VAL	37602 VAL	37602 VAL	37631 VAL	37602 VAL
and the second of the second of the second	Dibenzofuran	10. U 10. U	10. U 10. U	10. U 10. U	10. U 10. U	10. U	10. U
,	2,4-Dinitrotoluene				•	10. U	10. U
A REPORT OF THE PROPERTY OF TH	2,6-Dinitrotoluene	10. U 10. U	10. U	10. U 10. U	10. U 10. U	10. U 10. U	10. U
Andreas American Contract Cont	Diethylphthalate	10. U	10. U	າບ. ບ 10. ປ	10. U	າບ. ບ 10. ບ	10. U
	4-Chlorophenylphenylether Fluorene	10. U	10. U	10. U	10. U	10. U 5. J	10. U 10. U
	rtuorene 4-Nitroaniline	25. U	1				
	2-Methyl-4,6-Dinitrophenol	25. U	25. U 25. U				
	N-Nitrosodiphenylamine	10. U					
The state of the property of the state of th	4-Bromophenyl-phenylether	10. U	10. u	10. U	10. 0	10. U	10. U
21.17	Hexachlorobenzene	10. U					
The state of the s	Pentachlorophenol	25. U					
	Phenanthrene	10. U	10. U	10. U	10. U	4. J	10. U
	Anthracene	10. U	10. U	10. U	10. U	0.6 1	10. U
	Di-n-butylphthalate	10. U	10, U	10. U	10. U	10. U	10. U
	Fluoranthene	10. U	10. U	10. U	10. Ŭ	10. U	10. U
129-00-0	***************************************	10. U					
	Butylbenzylphthalate	10. U					
	3,3'-Dichlorobenzidine	10. U					
The state of the s	Benzo(a)anthracene	10. U	10. U	10. U	10. Ú	10. U	10. U
	bis(2-Ethylhexyl)phthalate (BEHP)	10. U	1, J	9. J	0.9 J	10. U	0.5 J
218-01-9		10. U	10. U	10. U	10. Ú	10. U	10. U
	Di-n-octyl phthalate	10. U					
<ul> <li>In the control temperature (</li> </ul>	Benzo(b)fluoranthene	10. U					
Part Control Control Control Control	Benzo(k)fluoranthene	10. U					
The resolution of the second contraction of the second contraction of the second contract o	Benzo(k)) (tuoi anthene Benzo(a)pyrene	10. U	10. U	10. U	10. U	10. 0	10. U
	Indedo(1,2,3-cd)pyrene	10. U					
	Dibenz(a,h)anthracene	10. U					
	Benzo(g,h,i)perylene	10. U					

#### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

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SV-SVOA	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> DATE ANALYZED> MATRIX> UNITS>	FDS-G-W06A-03 FDSGW06A03 37631.04 FDSGW06A03 03/04/99 03/06/99 03/10/99 Water UG/L		FDS-G-W06 FDSGW0680 37631.05 FDSGW0680 03/04/99 03/06/99 03/10/99 Water UG/L	13	FDS-G-W06C FDSGW06C03 37631.06 FDSGW06C03 03/04/99 03/06/99 03/10/99 Water UG/L	-03						
CAS #	Parameter	37631	VAL	37631	VAL	37631	VAL						
108-95-2	Phenol	10.	U	10.		12.	U						
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.		12.	U						
	2-Chlorophenol	10.	U	10.		12.	U	000000000000000000000000000000000000000		X 000000000000000000000000000000000000	99999999999999999999999999999999999999	100000.00000000000000000000000000000000	
	1,3-Dichlorobenzene	10.	U	10.		12.	U						
	1,4-Dichlorobenzene	10.	U	10.		12.	U						
	Benzyl alcohol	10.	U	10.	200000000000000000000000000000000000000	12.	U			<b> </b>			
	1,2-Dichlorobenzene	10.	U U	10.	STANDARDONNANDARD SE SONIONA	12.	U			l			
	2-Methylphenol (o-Cresol)	10.	U	10. 10.		12.	U U			1			
	2,2'-oxybis(1-Chloropropane) 4-Methylphenol (p-Cresol)	10. 10.	U	10.	NAMES OF THE PROPERTY OF THE PARTY OF THE PA	12. 12.	U						
	'N-Nitroso-di-n-propylamine	10.	U	10.	No colo de la companione de la companione de la color	12.	U						
	Hexachloroethane	10.	บ	10.		12.	Ü						
error er er errora annommer errora	Nitrobenzene	10.	U	10.		12.	U					1	
an a como constituente de decembro.	Isophorone	10.	ŭ	10.		12.	Ü						
	2-Nitrophenol	10.	U	10.		12.	U		nga sagata araba sagata sa	100000000000000000000000000000000000000			
	2,4-Dimethylphenol	10.	Ü	10.	again an a san Palan an ann a s	12.	Ü						
	Benzoic acid	25.	U	0.		3.	J						
	bis(2-Chloroethoxy)methane	10.	Ü	10.	สตั้งและสายเรื่องการสายเกาะเกาะ	12.	Ü						
	2,4-Dichlorophenol	10.	U	10.		12.	U			1	#16###################################	1	
	1,2,4-Trichlorobenzene	10.	U	10.	hananadaaan aabaa nii is is is is	12.	Ū						
	Naphthalene	10.	U	10.		12.	U					**************************************	
	4-Chloroaniline	10.	U	10.	annan kang baar nanan merendi	12.	Ū						
	Hexachlorobutadiene	10.	U	- 10.	, U	12.	U				ti i i i i i i i i i i i i i i i i i i		400000000000000000000000000000000000000
	4-Chloro-3-methylphenol	10.	U	10.	. U	12.	Ū						
	2-Methylnaphthalene	10.	U	10.	U	12.	U						
77-47-4	Hexachtorocyclopentadiene	10.	U	10.	U	12.	U						
88-06-2	2,4,6-Trichlorophenol	10.	U	10.		12.	U						
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	31.	U						
91-58-7	2-Chloronaphthalene	10.	U	10.		12.	U	000000000000000000000000000000000000000	000-00 50000 00000000000000000	dof 1000000 v 4000 v 600			
	2-Nitroaniline	25.	U	25.		31.	Ú						
	Dimethyl phthalate	10.	U	10.		12.	U		500000000y1-1962-1-21-21	55555	8888888888888		500000000000000000000000000000000000000
208-96-8	Acenaphthylene	10.	U	10.	and the first of the property of	12.	U						
5 5 5	3-Nitroaniline	25.	U	25.		31.	U Salahan salah			a de la secono de la composición della composici		Turing Highware 1999 St	e ugggegegegenere i vak sed
	Acenaphthene	10.	U	10.	200000000000000000000000000000000000000	12.	U					1	
	2,4-Dinitrophenol	25.	U	25.		31.	U 		eri, e sesa destre i un pro-	Suur lannaa 184	Particles	jagogo er oteta kontak	
100-02-7	4-Nitrophenol	25.	Ü	25.	U	31.	U						
					····	<u>L</u>		L		<u> </u>		l	

### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

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SW-SVOA	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> DATE ANALYZED> MATRIX> UNITS>	FDSGW06A03 03/04/99 03/06/99	FDS-G-W06B-03 FDSGW06B03 37631.05 FDSGW06B03 03/04/99 03/06/99 03/10/99 Water UG/L	FDS-G-W06C-03 FDSGW06C03 37631.06 FDSGW06C03 03/04/99 03/06/99 03/10/99 Water UG/L			
CAS #	Parameter	37631 VAL	37631 VAL	37631 VAL			
	Dibenzofuran	10. U	1. J	12. U			
	2,4-Dinitrotoluene	10. U	10. U	12. U			
606-20-2	2,6-Dinitrotoluene	10. U	10. U	12. U			
	Diethylphthalate	10. U	10. U	12. U			
	4-Chlorophenylphenylether	10. U	10. U	12. ປ		B. (100 100 100 100 100 100 100 100 100 10	
	Fluorene	10. U	2. J	12. U			
	4-Nitroaniline	25. U	25. U	31. U		550000000000000000000000000000000000000	ere
534-52-1	2-Methyl-4,6-Dinitrophenol	25. U	25. U	31. U			
86-30-6	N-Nitrosodiphenylamine	10. U	10. U	12. U			
	4-Bromophenyl-phenylether	10. U	10. U	12. U			
	Hexachlorobenzene	10. U	10. U	12. U		***************************************	
87-86-5	Pentachlorophenol	25. U	25. U .	31. U			
	Phenanthrene	10. U	10. U	12. ປ			
<ul> <li>i. i. i., i., i. i.</li></ul>	Anthracene	10. U	10. U	12. ປ			
	Di-n-butylphthalate	10. U	10. U	12. U			
	Fluoranthene	10. U	10. U	12. U		£5-7:588.508.508.000000000000000000000000000	
129-00-0		10. U	10. U	0.6 J		**************************************	
	Butylbenzylphthalate	10. U	10. U	12. U			
	3,3'-Dichlorobenzidine	10. U	10. U	12. U			
	Benzo(a)anthracene	10. U	10. U	12. Ú			
	bis(2-Ethylhexyl)phthalate (BEHP)	10. U	10. U	12. U			
218-01-9		10. U	10. U	12. U			Swiffer in Strage Louis (Leiberter)
	Di-n-octyl phthalate	10. U	10. U	12. U			
	Benzo(b)fluoranthene	10. U	10. U	0.9 J		id Atalogija da 1 po 1 🕟 🕠	ende i delle et det genderede
	Benzo(k)fluoranthene	10. U	10. U	12. U		화 경험하였습니다. 항상 사람들은 기술하는 다	
an announced blocker section		10. U	10. U	12. U			
	Benzo(a)pyrene		10. U				
	Indeho(1,2,3-cd)pyrene	an anna an an dùthainn an an an Tarrara an	10. U	<u>kan mana mana kana kana kana kana kana k</u>			in the state of th
	Dibenz(a,h)anthracene	10. U					
191-24-2	Benzo(g,h,i)perylene	10. U	10. U	· 12. U			
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#### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2 3 4 5 AND 6

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SW846-META	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> MATRIX> UNITS>	FDSGW02A03 37602.06 FDSGW02A03 03/03/99 03/09/99 03/10/99 Water	F 3 6 0 0	FDS-G-WC FDSGW02E 37631.01 FDSGW02E 03/04/99 03/09/99 03/10/99 Water UG/L	303 1 303 )		FDS-G-W02C- FDSGW02C03 37602.07 FDSGW02C03 03/03/99 03/09/99 03/10/99 Water UG/L	03	FDS-G-W02D-1 FDSGW02D01 37602.04 FDSGW02D01 03/03/99 03/09/99 03/10/99 Water UG/L	D1	FDS-G-W03A FDSGW03A03 37631.02 FDSGW03A03 03/04/99 03/09/99 03/10/99 Water UG/L	03	FDS-G-W03B- FDSGW03B03 37602.03 FDSGW03B03 03/03/99 03/09/99 03/10/99 Water UG/L	03
CAS # Parameter		37602 VAI	3	37631		VAL	37602	VAL	37602	VAL	37631	VAL	37602	VAL
7439-97-6 Mercury (Hg) 7440-38-2 Arsenic (As) 7440-39-3 Barium (Ba) 7440-43-9 Cadmium (Cd) 7440-47-3 Chromium (Cr) 7439-92-1 Lead (Pb) 7782-49-2 Selenium (Se) 7440-22-4 Silver (Ag)		0.1 U 3.1 J 140. 0.3 U 1.4 J 1.5 U 3.1 U 1.4 U		2 46 6 0 1	0.1 2.9 5.2 0.3 0.81 1.5 5.1	ח ה ה ה ה ה ה ה ה ה ה ה ה ה	0.1 6.2 25.2 0.3 0.99 1.5 3.1 1.4	U U	0.1 11.2 84.9 0.3 0.7 1.5 3.1	U U U U U	0.1 2.9 28.5 0.3 0.7 1.5 3.1	U	0.1 3.5 27.4 0.3 0.7 1.5 3.1	U J U U U U
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### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

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SW846-META	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> DATE ANALYZED> MATRIX> UNITS>	FDSGW03C03 37602.02 FDSGW03C03 03/03/99 03/09/99 03/10/99	FDS-G-W04A-03 FDSGW04A03 37602.08 FDSGW04A03 03/03/99 03/09/99 03/10/99 Water UG/L	FDS-G-W04B-03 FDSGW04B03 37602.09 FDSGW04B03 03/03/99 03/09/99 Water UG/L	FDS-G-W04C-03 FDSGW04C03 37602:10 FDSGW04C03 03/03/99 03/09/99 03/10/99 Water UG/L	FDS-G-W05A-03 FDSGW05A03 37631.03 FDSGW05A03 03/04/99 03/09/99 03/10/99 Water UG/L	FDS-G-W05B-03 FDSGW05B03 37602.05 FDSGW05B03 03/03/99 03/09/99 Water UG/L
CAS # Parameter		37602 VAL	37602 VAL	37602 VAL	37602 VAL	37631 VAL	37602 VAL
7439-97-6 Mercury (Hg) 7440-38-2 Arsenic (As) 7440-39-3 Barium (Ba) 7440-43-9 Cadmium (Cd) 7440-47-3 Chromium (Cr) 7439-92-1 Lead (Pb) 7782-49-2 Selenium (Se) 7440-22-4 Silver (Ag)		0.1 U 3.4 J 22.3 J 0.3 U 0.7 U 1.5 U 3.1 U 1.4 U	0.1 U 2.9 U 12.1 J 0.3 U 0.81 J 1.5 U 3.1 U	0.1 U 2.9 U 25.7 0.3 U 0.84 J 1.5 U 3.1 U	0.1 U 2.9 U 14.9 J 0.3 U 0.83 J 1.5 U 3.1 U 1.4 U	0.1 U 3.4 J 43.5 0.3 U 1.5 J 1.5 U 3.1 U	0.1 U 2.9 U 39.7 0.3 U 0.87 J 1.5 U 3.1 U 1.4 U
			:	4			
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### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

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SW846-META	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> MATRIX> UNITS>	FDSGW06A03 37631.04 FDSGW06A03 03/04/99 03/09/99 03/10/99	FDS-G-W06B-03 FDSGW06B03 37631.05 FDSGW06B03 03/04/99 03/09/99 03/10/99 Water UG/L	FDS-G-W06C-03 FDSGW06C03 37631.06 FDSGW06C03 03/04/99 03/09/99 03/10/99 Water UG/L		
CAS # Parameter		37631 VAL	37631 VAL	37631 VAL		
7439-97-6 Mercury (Hg) 7440-38-2 Arsenic (As) 7440-39-3 Barium (Ba)		0.1 U 6.6 J 15.4 J	0.1 U 2.9 U 28.9	0.1 U 24.3 31.		
7440-43-9 Cadmium (Cd) 7440-47-3 Chromium (Cr)		0.3 U 11.1	0.3 U 1.5 J	0.3 U 5.6 J		
7439-92-1 Lead (Pb) 7782-49-2 Selenium (Se)		1.8 J 3.1 U	1.5 U 3.1 U	2. J 3.1 U		
7440-22-4 Silver (Ag)		1.4 U	1.4 U	1.4 U		

#0/18/ AREAS 2,3,4,5+6

Attachment B
Analytical Data

### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

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SW846-VOA		SAMPLE ID ORIGINAL ID LAB SAMPLE ID ID FROM REPORT SAMPLE DATE DATE ANALYZED MATRIX UNITS	- FDSGW02A03 - 37602.06 - FDSGW02A03 - 03/03/99 - 03/08/99 - Water	F 3 F 0 0	FDS-G-W FDSGW02 37631.0 FDSGW02 03/04/9 03/08/9 Water JG/L	803 1 803 9	FDS-G-W02C-0 FDSGW02C03 37602.07 FDSGW02C03 03/03/99 03/08/99 Water UG/L	3	FDS-G-W02D-01 FDSGW02D01 37602.04 FDSGW02D01 03/03/99 03/08/99 Water UG/L	FDS-G-W03A-03 FDSGW03A03 37631.02 FDSGW03A03 03/04/99 03/08/99 Water UG/L	FDS-G-W03B-03 FDSGW03B03 37602.03 FDSGW03B03 03/03/99 03/05/99 Water UG/L
CAS #	Parameter		37602 VA	L 3	37631	VAL	37602	VAL	37602 VAL	37631 VAL	37602 VAL
108-88-3	Ethylbenzene		5. U 5. U 5. V 5. U			5. U 5. U 5. U	5. 5. 5.	U U U U	5. U 5. U 5. U 5. U	5. U 5. U 5. U 5. U	5. U 5. U 5. U 5. U
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### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

Page: 17 Time: 09:30

SW846-VOA	ORIC LAB ID I SAMI DATE MATE	PLE ID> SINAL ID> SAMPLE ID> FROM REPORT> PLE DATE> E ANALYZED> RIX> IS>	FDS-G-W03C-03 FDSGW03C03 37602.02 FDSGW03C03 03/03/99 03/05/99 Water UG/L	FDS-G-W04A-03 FDSGW04A03 37602.08 FDSGW04A03 03/03/99 03/08/99 Water UG/L	FDS-G-W04B-03 FDSGW04B03 37602.09 FDSGW04B03 03/03/99 03/08/99 Water UG/L	FDS-G-W04C-03 FDSGW04C03 37602.10 FDSGW04C03 03/03/99 03/08/99 Water UG/L	FDS-G-W05A-03 FDSGW05A03 37631.03 FDSGW05A03 03/04/99 03/08/99 Water UG/L	FDS-G-W058-03 FDSGW05803 37602.05 FDSGW05803 03/03/99 03/05/99 Water UG/L
CAS # Parame			37602 VAL	37602 VAL	37602 VAL	37602 VAL	37631 VAL	37602 VAL
71-43-2 Benzer 100-41-4 Ethylb 108-88-3 Toluer 1330-20-7 Xylene	benzene ne		5. U 5. U 5. U 5. U	5. U 5. U 5. U 5. U	5. U 5. U 5. U 5. U	5. U 5. U 5. U	5. U 5. U 5. U 5. U	5. U 5. U 5. U 5. U
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10/01/99

#### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

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sw846-v0a		SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE ANALYZED> MATRIX> UNITS>	FDS-G-W06A-03 FDSGW06A03 37631.04 FDSGW06A03 03/04/99 03/08/99 Water UG/L	FDS-G-W06B-03 FDSGW06B03 37631.05 FDSGW06B03 03/04/99 03/08/99 Water UG/L	FDS-G-W06C-03 FDSGW06C03 37631.06 FDSGW06C03 03/04/99 03/08/99 Water UG/L		
	Parameter		37631 VAL	37631 VAL	37631 VAL		
108-88-3	Ethylbenzene		5. U 5. U 5. U 5. U	5. U 5. U 5. U 5. U	5. U 5. U 5. U 5. U		
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#### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

Page: 1 Time: 09:30

SW-SVOA	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> DATE ANALYZED> MATRIX> UNITS>	FDS-G-W02A- FDSGW02A03 37602.06 FDSGW02A03 03/03/99 03/05/99 03/11/99 Water UG/L	03	FDS-G-W02B-0 FDSGW02B03 37631.01 FDSGW02B03 03/04/99 03/06/99 03/10/99 Water UG/L	3	FDS-G-W02C-0 FDSGW02C03 37602.07 FDSGW02C03 03/03/99 03/05/99 03/11/99 Water UG/L	3	FDS-G-W02D-0 FDSGW02D01 37602.04 FDSGW02D01 03/03/99 03/05/99 03/11/99 Water UG/L	1	FDS-G-W03A-0 FDSGW03A03 37631.02 FDSGW03A03 03/04/99 03/06/99 03/10/99 Water UG/L	3	FDS-G-W03B FDSGW03B03 37602.03 FDSGW03B03 03/03/99 03/05/99 03/11/99 Water UG/L	<b>;</b>
CAS #	Parameter	37602	VAL	37631	VAL	37602	VAL	37602	VAL	37631	VAL	37602	VAL
108-95-2	Phenol	10.	U	10.	U	10.	U	10.	บ	10.	U	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	Ų	10.	U į	10.	U	10.	U	10.	U	10.	Ü
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U ·	10.	U	10.	U	10.	U	10.	U
100-51-6	Benzyl alcohol	10.	U	10.	. U	10.	U	10.	U	10.	Ü	10.	U
95-50-1	1,2-Dichlorobenzene	10.	Ü	10.	U	10.	U	10.	U	10.	U	10.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	Ų	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U.	10.	U	10.	U	10.	U	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	IJ	10.	U	10.	U	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U	10.	U	10.	Ü	10.	U
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
98-95-3	Nitrobenzene	10.	U	10.	U	10.	U.	10.	U	10.	U	10.	U
78-59-1	Isophorone	10.	ับ	10.	U	10.	U	10.	U	10.	U	10.	U
88-75-5	2-Nitrophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
105-67-9	2,4-Dimethylphenol	10.	u.	10.	u	10.	U	10.	Ų	10.	U	10.	U
	Benzoic acid	0.9	J	25.	U	25.	U	0.6	J	0.6	J	25.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U "	10.	U	10.	U	10.	U	10.	Ü
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-20-3	Naphthalene	10.	U	- 10.	U	10.	U	10.	U	10.	U	10.	U
106-47-8	4-Chloroaniline	10.	Ü	. 10.	U	10.	U	10.	U	10.	U	10.	Ü
87-68-3	Hexachlorobutadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U /	10.	U	10.	U	10.	U	10.	U
	2-Methylnaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
	Hexachlorocyclopentadiene	10.	U	10.	Ú	10.	Ú	10.	U	10.	U	10.	Ü
	2,4,6 <sup>1</sup> Trichlorophenol	10.	U	10.	U	10.	U	: 10.	U	10.	Ü	10.	U
	2,4,5-Trichlorophenol	25.	Ü	25.	U	25.	Ü	25.	U	25.	U	25.	Ü
	2-Chloronaphthalene	10.	U	10.	U ,	10.	U	10.	U	10.	U	10.	Ü
Control of the Contro	2-Nitroaniline	25.	U	25.	Ü	25.	U	25.	U	25.	U	25.	Ü
	Dimethyl phthalate	10.	U	10.	U	10.	U	10.	υ	10.	U	10.	U
11 - 125 TANK	Acenaphthylene	10.	Ü	10.	U	10.	U	10.	Ü	10.	U	10.	U
1 '1	3-Nitroaniline	25.	U	25.	U	25.	U	25.	υ	25.	U	25.	U
1	Acenaphthene	10.	U	10.	U	10.	U	10.	U	2.	J	10.	U
	2,4-Dinitrophenol	25.	U	25.	U	25.	U	25.	Ü	25.	U	25.	U
	4-Nitrophenol	25.	Ų	25.	U	25.	U	25.	U	25.	Ú	25.	U .

### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

Page: 2 Time: 09:30

SW-SVOA	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> MATRIX> UNITS>	FDS-G-W02A-03 FDSGW02A03 37602:06 FDSGW02A03 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W02B-03 FDSGW02B03 37631.01 FDSGW02B03 03/04/99 03/06/99 03/10/99 Water UG/L	FDS-G-W02C-03 FDSGW02C03 37602.07 FDSGW02C03 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W02D-01 FDSGW02D01 37602.04 FDSGW02D01 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W03A-03 FDSGW03A03 37631.02 FDSGW03A03 03/04/99 03/06/99 03/10/99 Water UG/L	FDS-G-W03B-03 FDSGW03B03 37602.03 FDSGW03B03 03/03/99 03/05/99 03/11/99 Water UG/L
CAS #	Parameter	37602 VAL	37631 VAL	37602 VAL	37602 VAL	37631 VAL	37602 VAL
	Dibenzofuran	10. ປ	10. U	10. U	10. U	10. ປ	10. U
	2,4-Dinitrotoluene	10. U					
	2,6-Dinitrotoluene	່ 10. ປ 10. ປ	10. U	10. U	10. ປ 10. ປ	10. ປ	10. U
	Diethylphthalate	10. U   10. U	10. U 10. U	10. U 10. U	10. U	10. U   10. U	10. U
86-73-7	4-Chlorophenylphenylether	10. U	10. U	10. U	10. 0	4. ]	10. U 10. U
races and annual contractions	4-Nitroaniline	25. U					
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2-Methyl-4,6-Dinitrophenol	25. U					
	N-Nitrosodiphenylamine	10. U	10. U	10. ປ	10. U	10. U	10. U
	4-Bromophenyl-phenylether	10. U					
	Hexachlorobenzene	10. U					
87-86-5	Pentachlorophenol	25. U					
The contract of the contract o	Phenanthrene	10. ປ	10. U	10. ປ	10. U	0.6 J	10. U
	Anthracene	10. U					
The second secon	Di-n-butylphthalate	10. U	l 10. U	l 10. U	10. U	10. U	10. U
	Fluoranthene	10. U					
129-00-0		10. ປ 10. ຍ	10. U				
	Butylbenzylphthalate	10. ປ 10. ປ	10. U	10. U 10. U	10. U 10. U	10. U	10. U
The contract of the contract o	3,3'-Dichlorobenzidine	10. U	10. U	10. U	10. U	10. U 10. U	10. U
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Benzo(a)anthracene bis(2-Ethylhexyl)phthalate (BEHP)	3. J	10. U	1. J	1. J	10. U	10. U
218-01-9		10. U	10. U	10. U	10. Ü	10. 0	10. U 10. U
	Di-n-octyl phthalate	10. U					
<ul> <li>In the contract of the contract o</li></ul>	Benzo(b)fluoranthene	า้ง. บ	10. U	່ 10. ບ	10. U	10. U	10. 0
	Benzo(k)fluoranthene	10. U	10. U	່ 10. ປ	10. U	10. U	10. U
<ul> <li>Line is the proposed streamstate.</li> </ul>	Benzo(a)pyrene	10. U	10. U	10. ປ	10. U	10. U	10. U
	Indenb(1,2,3-cd)pyrene	10. U					
	Dibenz(a,h)anthracene	10. U					
	Benzo(g,h,i)perylene	10. U	10. U	10. U	10. υ	10. U	10. U

#### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

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SW-SVOA	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> DATE ANALYZED> MATRIX> UNITS>	FDS-G-W03C-03 FDSGW03C03 37602.02 FDSGW03C03 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W04A-03 FDSGW04A03 37602.08 FDSGW04A03 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W04B-03 FDSGW04B03 37602.09 FDSGW04B03 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W04C-03 FDSGW04C03 37602.10 FDSGW04C03 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W05A-03 FDSGW05A03 37631.03 FDSGW05A03 03/04/99 03/06/99 03/10/99 Water UG/L	FDS-G-W058-03 FDSGW05803 37602.05 FDSGW05803 03/03/99 03/05/99 03/11/99 Water UG/L
CAS #	Parameter	37602 VAL	37602 VAL	37602 VAL	37602 VAL	37631 VAL	37602 VAL
108-95-2		10. U	10. ປ	10. U	10. U	10. U	10. U
	bis(2-Chloroethyl)ether	10. U					
	2-Chlorophenol	10. U					
The state of the s	1,3-Dichlorobenzene	10. U 10. U	10. U	10. U	10. ປ 10. ປ	10. U	10. U
35 - 25 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 -	1,4-Dichlorobenzene	10. ປ 10. ປ	10. U	10. U	10. U	10. U	10. U 10. U
	Benzyl alcohol 1,2-Dichlorobenzene	10. U					
	2-Methylphenol (o-Cresol)	10. U	10. U	10. Ŭ	10. Ü	10. U	10. U
	2,2'-oxybis(1-Chloropropane)	10. U					
	4-Methylphenol (p-Cresol)	10. U	10. Ú				
	N-Nitroso-di-n-propylamine	10. U					
	Hexachloroethane	10. U					
	Nitrobenzene	10. U					
78-59-1	Isophorone	10. U					
	2-Nitrophenol	10. U	l 10. U	10. U	່ 10. ປ	10. U	10. U
	2,4-Dimethylphenol	10. U					
The second contract the second contract	Benzoic acid	0.5 J	0.6 J	] 25. U	25. U	0.8 J	25. U
	bis(2-Chloroethoxy)methane	10. U					
	2,4-Dichlorophenol	10. U					
	1,2,4-Trichlorobenzene	10. U					
	Naphthalene	10. U 10. U	10. U 10. U	10. U	10. U 10. U	່ 10. ປ 10. ປ	10. U 10. U
L. St. St. St. St. St. St. St. St. St. St	4-Chloroaniline	10. U					
<ul> <li>Line Control of Control State</li> </ul>	Hexachlorobutadiene 4-Chloro-3-methylphenol	10. U	10. U 10. U				
	2-Methylnaphthalene	10. U					
	Hexachtorocyclopentadiene	10. U					
	2,4, <i>8</i> -Trichlorophenol	10. U	10. U	10. U	. 10. U	10. U	10. U
	2,4,5-Trichtorophenot	25. U					
	2-Chloronaphthalene	10. U	10. U	10. U	10. υ	10. U	10. U
	2-Nitroaniline	25. U					
131-11-3	Dimethyl phthalate	10. U	10. U	]. 10 <b>.</b> U	10. U	10. U	10. ປ
208-96-8	Acenaphthylene	10. ປ	10. U	10, U	10. U	10. U	10. U
	3-Nitroaniline	25. U	25. U	] 25. U	25. U	25. U	25. U
	Acenaphthene	10. U	10. U	10. U	10. U	2. J	10. U
	2,4-Dinitrophenol	25. U					
100-02-7	4-Nitrophenol	25. U					
			<u> </u>	<u> </u>	<u> </u>	<u> </u>	

## CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

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SW-SVOA	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> DATE ANALYZED> MATRIX> UNITS>	FDS-G-W03C-03 FDSGW03C03 37602.02 FDSGW03C03 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W04A-03 FDSGW04A03 37602.08 FDSGW04A03 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W04B-03 FDSGW04B03 37602.09 FDSGW04B03 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W04C-03 FDSGW04C03 37602.10 FDSGW04C03 03/03/99 03/05/99 03/11/99 Water UG/L	FDS-G-W05A-03 FDSGW05A03 37631.03 FDSGW05A03 03/04/99 03/06/99 03/10/99 Water UG/L	FDS-G-W05B-03 FDSGW05B03 37602.05 FDSGW05B03 03/03/99 03/05/99 03/11/99 Water UG/L
CAS #	Parameter	37602 VAL	37602 VAL	37602 VAL	37602 VAL	37631 VAL	37602 VAL
121-14-2 606-20-2 84-66-2 7005-72-3 86-73-7 100-01-6 534-52-1 86-30-6 101-55-3 118-74-1 87-86-5 85-01-8 120-12-7 84-74-2 206-44-0 129-00-0 85-68-7 91-94-1 56-55-3 117-81-7 218-01-9 117-84-0 205-99-2 207-08-9 50-32-8 193-39-5 53-70-3	Butylbenzylphthalate 3,3'-Dichlorobenzidine Benzo(a)anthracene bis(2-Ethylhexyl)phthalate (BEHP)	10. U 25. U 25. U 10. U	10. U 25. U 10. U 10. U 25. U 10. U	10. U 25. U 25. U 10. U 10. U 25. U 10. U	10. U 25. U 25. U 10. U 10. U 25. U 10. U	10. U 25. U 10. U 25. U 4. J 0.6 J 10. U	10. U 25. U 25. U 10. U 25. U 10. U

### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

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SW-SVÖA	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> MATRIX> UNITS>	FDS-G-W06A-03 FDSGW06A03 37631.04 FDSGW06A03 03/04/99 03/06/99 03/10/99 Water UG/L		FDS-G-W061 FDSGW06803 37631.05 FDSGW06803 03/04/99 03/06/99 03/10/99 Water UG/L	; .	FDS-G-W06C FDSGW06C03 37631.06 FDSGW06C03 03/04/99 03/06/99 03/10/99 Water UG/L	-03						
CAS # Parameter		37631	VAL	37631	VAL	37631	VAL						
108-95-2 Phenol		10.	U	10.	U	12.	U	 	000 0000 000000 00000 00000	L 50 5050000 - 3000000000		a tingti anno i a a	a production in the
111-44-4 bis(2-Chloro		10.	U	10.	U	12.	U						
95-57-8 2-Chloropheno		10.	U	10.	U .	12.	U massachus	 	was serviced and the service	u a late at the at at the terminal	namen in in section	Authoration of	Rum Hemboldskie, blie
541-73-1 1,3-Dichlorob		10.	U	10.	U	12.	U			1		(Paragonalis) na	
106-46-7 1,4-Dichlorob		10.	U	10.	U	12.	U		3.003666.000000000000000000000000000000		i SSR the III This eine	struktura a stoát it szárak	
100-51-6 Benzyl alcoho		10.	U	10.	U	12.	U	1					
95-50-1 1,2-Dichlorot		10.	U	10.	U	12.	U	10000000000000000000000000000000000000	\$4.8000000000000000000000000000000000000	side Krausii . usi	2011 - P	La caracteria	
95-48-7 2-Methylpheno		10.	U	10.	U	12,	U				ing to	Total Harris	
108-60-1 2,2'-oxybis(		10.	U	10.	U	12.	U		0.000.000.000.000.000.000.000.000	Jakot Litir Level and		Land the same of the	van Juanen ing
106-44-5 4-Methylpheno		10.	U	10.	Ü	12.	U						
621-64-7 N-Nitroso-di		10. 10.	U	10. 10.	U U	12. 12.	U U	alika Harawara					
67-72-1 Hexachloroeth	iane with the second		U	10.	U	12.	U			e e e e e			
98-95-3 Nitrobenzene		10. 10.	U	10.	ט	12.	Ü				Navada	, la dividir in programa	Kalifornia Arris
78-59-1 Isophorone		10.	IJ	10.	U	12.	U					elle viloger egsekerejageg	
88-75-5 2-Nitrophenol 105-67-9 2,4-Dimethylp		10.	U	10.	ט י	12.	Ü			illandura tuk	SENT AND DOUGH	Purte da de de la comp	¥4476000000
65-85-0 Benzoic acid	nienot	25.	U	0.6	NO CONTRACTOR OF CONTRACTOR CONTRACTOR	3.	J						
111-91-1 bis(2-Chloro		10.	U	10.	Ü	12.	U				200.675.600 Juli da.		
		10.	U	10.	U	12.	U			en price proper despe	esessoritur Carriel		
120-83-2 2,4-Dichlorop		10.	Ü	10.	Ü	12.	ีย				Beddi salahi da pada		
120-82-1 1,2,4-Trichlo	probenzene	10.	U	10.	U	12.	U				9800898070 77.00.00		
91-20-3 Naphthalene 106-47-8 4-Chloroanil		10.	Ü	10.	Ü	12.	U						989945586.000.000
87-68-3 Hexachlorobu		10.	U	10.	U	12.	U	900000000000000000000000000000000000000	-35000000000000000000000000000000000000		asterier (z. 1771). Neises.		
59-50-7 4-Chloro-3-me		10.	Ü	10.	U	12,	U				ideidas ir curiusi.	4	
91-57-6 2-Methylnaph		10.	U	10.	U	12.	U						
77-47-4 Hexachlorocy		10.	Ü	10.	U	12.	Ü				35.57 (See Lot 194)		
88-06-2 2,4,8-Trichle		10.	U	10.	U	12.	U						
95-95-4 2,4,5-Trichle		25.	Ü	25.	บั	31.	ŭ			# <b>[</b> s.an.us#]	19 Barrier - 17 Av		
91-58-7 2-Chloronaph		10.	U	10.	Ü	12.	U			nde dens dens here hin	Transfer of the second		Market Rands, 1, 10
88-74-4 2-Nitroanili		25.	บั	25.	ŭ	31.	Ŭ				ydan in h		
131-11-3 Dimethyl phth		10.	U	10.	U	12.	U	1	e de la companya de			1.	
208-96-8 Acenaphthyler		10.	ŭ	10.	ŭ	12.	ŭ			1.		100 45374	54430
99-09-2 3-Nitroanilin		25.	U	25.	Ü	31.	U	la constant de la con		1			A SAME OF A CONTRACT OF A
83-32-9 Acenaphthene	· <del>-</del>	10.	Ü	10.		12.	Ü					l si se ser ser	
51-28-5 2,4-Dinitroph	nenol	25.	Ū	25.	U	31.	U	I				1	
100-02-7 4-Nitropheno		25.	U	25.	Ū.	31.	U			1		1	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	•			Ī		1		ľ		[			

### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

Page: 6 Time: 09:30

SW-SVOA	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> DATE ANALYZED> MATRIX> UNITS>	FDS-G-W06A-03 FDSGW06A03 37631.04 FDSGW06A03 03/04/99 03/06/99 03/10/99 Water UG/L	FDS-G-W068-03 FDSGW06803 37631:05 FDSGW06803 03/04/99 03/06/99 03/10/99 Water UG/L	FDS-G-W06C-03 FDSGW06C03 37631.06 FDSGW06C03 03/04/99 03/06/99 03/10/99 Water UG/L			
CAS #	Parameter	37631 VAL	37631 VAL	37631 VAL			
the state of the s	Dibenzofuran	10. U	1	12. U	136 July 1000 1911 A 200 July 100 July 100		
	2,4-Dinitrotoluene	10. U	10. U	12. U			
	2,6-Dinitrotoluene	10. U	10. U	- 12 <b>.</b> U	Southto in a natural topological monomore of		at an an area and an area and a second and
84-66-2	Diethylphthalate	10. U	10. U	12. U			
	4-Chlorophenylphenylether	10. ປ	10. U	·  12. U			of point or total abutual work you apply to the control of the con-
86-73-7		10. U	2. J	12. U			
	4-Nitroaniline	25. U	25. U	31. U		Martini, albertana, para ina normana abbasia an arawa	Approblementary and account to the con-
	2-Methyl-4,6-Dinitrophenol	25. U	25. U	31. U			
	N-Nitrosodiphenylamine	10. U	່ 10. ປ	12. ປ	Consideration of the contract		
101-55-3	4-Bromophenyl-phenylether	10. U	10. U	12. U			
	Hexach lorobenzene	10. U	10. U	12. ປ			
	Pentachlorophenol	25. U	25. U	31. U			
85-01-8	Phenanthrene	10. U	j 10. U	12. U			
120-12-7	Anthracene	10. U	10. U	12, U			
84-74-2	Di-n-butylphthalate	10. U	10. U	12. U	toprononte eleveressossissi tu velukene e e		Company of the Company
	Fluoranthene	10. U	10. U	12. U			
129-00-0	Pyrene	10. U	10. U	0.6 J			
85-68-7	Butylbenzylphthalate	10. U	10. U	12. U			
91-94-1	3,3'-Dichlorobenzidine	10. U	10. U	12. U			
56-55-3	Benzo(a)anthracene	10. U	10. U	12. U			
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10. U	10. U	12. U			
218-01-9		10. U	10. U	12. U			
	Di-n-octyl phthalate	10. U	10. U	12. U			
	Benzo(b)fluoranthene	10. U	10. U	0.9 J			
	Benzo(k)fluoranthene	10. U	10. U	12. U		passing and the state of the st	
	Benzo(a)pyrene	10. U	10. U	12. U			
	Indeno(1,2,3-cd)pyrene	10. U	10. U	12. U		www.cometa.com. 2013/09/09/09/09/09/09/09/09	
	Dibenz(a,h)anthracene	10. U	10. U	12. U			
	Benzo(g,h,i)perylene	10. U	10. U	12. U			

### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

Page: 7 Time: 09:30

SW846-META		SAMPLE 1D> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> DATE ANALYZED> MATRIX> UNITS>	FDS-G-W02A-03 FDSGW02A03 37602.06 FDSGW02A03 03/03/99 03/10/99 Water UG/L	FDS-G-W02B-03 FDSGW02B03 37631.01 FDSGW02B03 03/04/99 03/09/99 03/10/99 Water UG/L	FDS-G-W02C-03 FDSGW02C03 37602.07 FDSGW02C03 03/03/99 03/09/99 03/10/99 Water UG/L	FDS-G-W02D-01 FDSGW02D01 37602.04 FDSGW02D01 03/03/99 03/09/99 03/10/99 Water UG/L	FDS-G-W03A-03 FDSGW03A03 37631.02 FDSGW03A03 03/04/99 03/09/99 03/10/99 Water UG/L	FDS-G-W03B-03 FDSGW03B03 37602.03 FDSGW03B03 03/03/99 03/09/99 03/10/99 Water UG/L
CAS #	Parameter		37602 VAL	37631 VAL	37602 VAL	37602 VAL	37631 VAL	37602 VAL
7440-38-2 7440-39-3 7440-43-9 7440-47-3 7439-92-1 7782-49-2	Mercury (Hg) Arsenic (As) Barium (Ba) Cadmium (Cd) Chromium (Cr) Lead (Pb) Selenium (Se) Silver (Ag)		0.1 U 3.1 J 140. 0.3 U 1.4 J 1.5 U 3.1 U 1.4 U	0.1 U 2.9 U 46.2 0.3 U 0.81 J 1.5 U 3.1 U 1.4 U	0.1 U 6.2 J 25.2 0.3 U 0.99 J 1.5 U 3.1 U 1.4 U	0.1 U 11.2 84.9 0.3 U 0.7 U 1.5 U 3.1 U 1.4 U	0.1 U 2.9 U 28.5 0.3 U 0.7 U 1.5 U 3.1 U 1.4 U	0.1 U 3.5 J 27.4 0.3 U 0.7 U 1.5 U 3.1 U
	<b>1</b>			#F				

### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING AREAS 2, 3, 4, 5, AND 6

Page: 8 Time: 09:30

SW846-META	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> DATE ANALYZED> MATRIX> UNITS>	FDS-G-W03C-03 FDSGW03C03 37602.02 FDSGW03C03 03/03/99 03/10/99 Water UG/L	FDS-G-W04A-03 FDSGW04A03 37602.08 FDSGW04A03 03/03/99 03/10/99 Water UG/L	FDS-G-W04B-03 FDSGW04B03 37602.09 FDSGW04B03 03/03/99 03/10/99 Water UG/L	FDS-G-W04C-03 FDSGW04C03 37602.10 FDSGW04C03 03/03/99 03/09/99 03/10/99 Water UG/L	FDS-G-W05A-03 FDSGW05A03 37631.03 FDSGW05A03 03/04/99 03/09/99 03/10/99 Water UG/L	FDS-G-W05B-03 FDSGW05B03 37602.05 FDSGW05B03 03/03/99 03/10/99 Water UG/L
CAS # Parameter		37602 VAL	37602 VAL	37602 VAL	37602 VAL	37631 VAL	37602 VAL
7439-97-6 7440-38-2 7440-39-3 7440-43-9 7440-47-3 7439-92-1 7782-49-2 7440-22-4 Silver (Ag)		0.1 U 3.4 J 22.3 J 0.3 U 0.7 U 1.5 U 3.1 U 1.4 U	0.1 U 2.9 U 12.1 J 0.3 U 0.81 J 1.5 U 3.1 U 1.4 U	0.1 U 2.9 U 25.7 0.3 U 0.84 J 1.5 U 3.1 U 1.4 U	0.1 U 2.9 U 14.9 J 0.3 U 0.83 J 1.5 U 3.1 U 1.4 U	0.1 U 3.4 J 43.5 0.3 U 1.5 J 1.5 U 3.1 U 1.4 U	0.1 U 2.9 U 39.7 0.3 U 0.87 J 1.5 U 3.1 U 1.4 U

#### CHARLESTON CTO-0144 FUEL DISTRIBUTION POST-CAR GROUNDWATER SAMPLING

Page: Time: 09:30

AREAS 2, 3, 4, 5, AND 6

		-	MCEAS 2, 3, 4			
SW846-META	SAMPLE ID> ORIGINAL ID> LAB SAMPLE ID> ID FROM REPORT> SAMPLE DATE> DATE EXTRACTED> MATRIX> UNITS>	FDSGW06A03 37631.04 FDSGW06A03 03/04/99 03/09/99 03/10/99 Water	FDS-G-W06B-03 FDSGW06B03 37631.05 FDSGW06B03 03/04/99 03/09/99 03/10/99 Water UG/L	FDS-G-W06C-03 FDSGW06C03 37631.06 FDSGW06C03 03/04/99 03/09/99 03/10/99 Water UG/L		
CAS # Parameter		37631 VAL	37631 VAL	37631 VAL		
7439-97-6 Mercury (Hg) 7440-38-2 Arsenic (As) 7440-39-3 Barium (Ba) 7440-43-9 Cadmium (Cd) 7440-47-3 Chromium (Cr 7439-92-1 Lead (Pb) 7782-49-2 Selenium (Se 7440-22-4 Silver (Ag)	)	0.1 U 6.6 J 15.4 J 0.3 U 11.1 1.8 J 3.1 U 1.4 U	0.1 U 2.9 U 28.9 0.3 U 1.5 J 1.5 U 3.1 U	0.1 U 24.3 31. 0.3 U 5.6 J 2. J 3.1 U 1.4 U		
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					. ,	



19 November 1999

2600 Bull Street Columbia, SC 29201-1708

COMMISSIONER: Douglas E. Bryant

Department of the Navy Southern Division NFEC

BOARD: John H. Burriss P.O. Box 190010

Chairman

North Charleston, SC 29419-9010 Attention: Mr. Gabriel Magwood

William M. Hull, Jr., MD Vice Chairman

Roger Leaks, Jr. Secretary

Re:

Final Assessment Report dated 1 October 1999

Mark B. Kent

Zone G/Site 2,3,4,5,6-Fuel Distribution System (Site Identification # 01181)

Charleston Naval Complex/Charleston Naval Base

Cyndi C. Mosteller

Charleston, SC

Brian K. Smith

**Charleston County** 

Rodney L. Grandy

Dear Mr. Magwood:

The author has completed technical review of the referenced document. As submitted, the report provides a narrative and summary of previous assessment activities and analytical results from additional sampling conducted to establish the environmental fate of suspected contamination at the subject property. Previous analytical results provided indicate that concentrations of PAH and VOC compound(s) (naphthalene, benzene) were reported in soil samples FDSSC01201/FDSSC01301. The reported concentrations exceed the RBSL (Risk-Based Screening Levels, SCDHEC Risk-Based Corrective Action for Petroleum Releases, 5 January 1998) and are below proposed RBC (Risk-Based Concentrations for Residential Soils, EPA Region III Risk-Based Concentrations Table, 12 April 1999). Available analytical data and applied interpretations appear to indicate that a reasonable delineation and characterization of the extent and severity of soil contamination have been developed for the FDS Site 2,3,4,5,6 combined area. This information and data were then utilized in evidential discussion(s) for consideration of employing groundwater monitoring in the near term to demonstrate residual soil contamination will not impact groundwater.

With consideration to the above, the author concurs with the proposed groundwater monitoring program. The facility should develop an appropriate SAP (sampling and analysis plan), including proposed sampling schedule. A schedule for development of the requested SAP should be submitted to my attention by 31 December 1999. Should you have any questions please contact me at (803) 898-3559.

Charleston Naval Complex/Charleston Naval Base 19 November 1999 page 2

Sincerely,

Faul (1971)

Paul L. Bristol, Hydrogeologist Groundwater Quality Section Bureau of Water

Trident District EQC cc:



Re:

13 November 1998

2600 Bull Street Columbia, SC 29201-1708

COMMISSIONER:

Douglas E. Bryant

BOARD: John H. Burriss

Chairman

William M. Hull, Jr., MD

Vice Chairman

Roger Leaks, Jr. Secretary

Mark B. Kent

Cyndi C. Mosteller

Brian K. Smith

Rodney L. Grandy

Department of the Navy

Southern Division NFEC P.O. Box 190010

North Charleston, SC 29419-9010 Attention: Mr. Gabriel Magwood

Environmental Assessment Report dated 10 September 1998

Zone G/Areas 2,3,4,5,6 (Site Identification # 01181)

Fuel Distribution System

Charleston Naval Complex/Charleston Naval Base

Charleston, SC **Charleston County** 

#### Dear Mr. Magwood:

The author has completed technical review of the referenced document. As submitted, the report provides a narrative describing environmental assessment activities and analytical results of soil and groundwater sampling conducted to determine if releases have occurred as a result of operation of the referenced piping system. The results presented indicate elevated levels of VOC (aromatic volatile organic compounds) and PAH (polynuclear aromatic hydrocarbon) compounds were detected in groundwater and soil grab samples obtained at the referenced site. These results approach or exceed levels proposed in the SCAP (Soil Corrective Action Plan, amended July 30, 1997) and/or established MCL's and/or health advisories applied to Class GB groundwater.

With consideration to the above comments, the results presented appear to indicate additional endeavors for remedial actions (soils removal) and contamination characterization (assessment activities, including groundwater investigations) are warranted at the referenced site. In this regard, the author concurs with the conclusions and recommendations as provided in the report and the proposed additional assessment activities and remedial actions are approved for implementation. Please find enclosed monitoring well approval # 0301 for the installation of one monitoring well at the subject site.

Please submit a schedule for the above activities to my attention by 2 January 1999.

Charleston Naval Complex/Charleston Naval Base 13 November 1998 page 2

Should you have any questions please contact me at (803) 734-5328.

Sincerely,

Paul L. Bristol, Hydrogeologist Groundwater Quality Section

Bureau of Water

enc:

monitoring well approval # 0301

CC:

Trident District EQC



Date of Issue: Approval No: 13 November 1998

0301

2600 Bull Street Columbia, SC 29201-1708

#### Monitoring Well Installation Approval

COMMISSIONER: Douglas E. Bryant

BOARD: John H. Burriss Chairman

William M. Hull, Jr., MD Vice Chairman

Roger Leaks, Jr. Secretary

Mark B. Kent

Cyndi C. Mosteller

Brian K. Smith

Rodney L. Grandy

Approval is hereby granted to:

Charleston Naval Complex/Charleston Naval Base

(on behalf of):

Zone G-Area 2,3,4,5,6

Site ID#:
County:

01181

Charleston

This approval is for the construction of one (1) monitoring well designated (no designation) in accordance with the construction plans and technical specifications submitted to the Department on 15 September 1998. The monitoring well is to be constructed within the surficial aquifer for the intended purpose of monitoring groundwater quality and/or water level(s) at the referenced facility. Approval is provided with the following conditions:

- 1. The surveyed elevations, boring and/or geologist logs and actual (as built) construction details for each well be submitted to within thirty (30) days of completion (of last well(s) installed). (to be submitted with Assessment Report)
- 2. Well construction and sampling derived waste including, but not necessarily limited to, drill cuttings, drilling fluids, development and purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regard to contents, source, and date of activity.
- 3. A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to Trident District EQC Office (843-740-1590).
- 4. Please provide groundwater quality analytical data (chemical analyses and/or water level(s)) and associated measurements (i.e., field measurements) to Paul L. Bristol within thirty (30) days of receipt from laboratory. (to be submitted with Assessment Report)
- 5. Monitoring wells shall be installed by a well driller certified by the State of South Carolina.
- 6. Each well shall be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate shall provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification number. (for permanent wells, only)

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71.

Approved by:

Paul I Bristol P

Groundwater Quality Section

Bureau of Water

cc: Tric

Trident District EQC